through [the] said electric conductors [(12, 13)], and further comprising in each case a tunnel dielectric [(35;51) is provided] between two adjacent magnetic layers [(31, 32; 41-46)].

Please amend claim 2 as follows:

2. (amended) The magnetoresistive read/write memory as claimed in claim 1, in which [the] said magnetization directions [(33, 34; 46-50)] that can be set independently of one another in [the] said individual layers [(31, 32; 41-45) are set or] can be set via different current intensities.

Please amend claim 3 as follows:

3. (amended) The magnetoresistive read/write memory as claimed in claim 1 [or 2], in which [the] said electric conductors [(12, 13)] are designed for high current densities.

Please amend claim 4 as follows:

4. (amended) The magnetoresistive read/write memory as claimed in [one of] claim[s] 1 [to 3], in which [the] said magnetic layers [(31, 32; 41-45)] are formed from a ferromagnetic material.

Please amend claim 5 as follows:

5. (amended) The magnetoresistive read/write memory as claimed in [one of] claim[s] 1 [to 4], in which [the] said intersecting conductors [(12, 13)] are aligned orthogonally to one another.

Please amend claim 6 as follows:

6. (amended) The magnetoresistive read/write memory as claimed in [one of] claim[s] 1 [to 5], in which [the] said tunnel dielectric has a thickness of 2 to 3 nm.

Please amend claim 7 as follows:

7. (amended) A method of writing to a magnetoresistive read/write memory as claimed in [one of]claim[s] 1 [to 6], having the following steps:

a) impressing a variable electric current into [the] said two electric conductors and, as a result, producing a magnetic field;

b) setting [the] said magnetization direction in [the] said individual magnetic layers of [the] said multilayer system via the field strength of [the] said magnetic field produced, [the] said magnetization directions in [the] said individual layers being set independently of one another via respectively differently high requisite field strengths, in such a way that [the] said magnetization directions are set first in those layers which need the highest field strength for this purpose and that [the] said magnetization directions are then set in those layers which respectively need a lower field strength for this purpose.

Please amend claim 8 as follows:

8. (amended) The method as claimed in claim 7, in which [the] said different field strengths acting on [the] said layers are produced by currents of different magnitudes being impressed into [the] said conductors.

Please amend claim 9 as follows:

9. (amended) The method as claimed in claim 7 [or 8], in which [the] said different field strengths acting on [the] said layers are produced by means of a different physical spacing of [the] said layers in relation to [the] said conductors.

Please amend claim 10 as follows:

10. (amended) The method as claimed in [one of] claim[s] 7 [to 9], in which the setting of [the] said magnetization directions in [the] said layers on the basis of field strengths of different magnitudes are influenced by the layer material and/or the layer thickness and/or the layer morphology.

Please amend claim 11 as follows:

11. (amended) A method of reading from a magnetoresistive read/write memory as claimed in [one of] claim[s] 1 [to 6], having the following steps:

a) impressing a defined item of data into [the] said individual layers of [the] said multilayer system in such a way that the item of data is first impressed into that layer which needs the lowest field strength to set [the] said magnetization direction, and that the item of data is then impressed into [the] said layers having the respectively next higher requisite field strength; and

b) detecting a possible information change in [the] said layer or [the] said layers on the basis of [the] said impressed defined item of data.

Please amend claim 12 as follows:

12. (amended) The method as claimed in claim 11, in which the detection of a possible information change in [the] said layer or [the] said layers is carried out by measuring the electrical resistance.

Please amend claim 13 as follows:

13. (amended) The method as claimed in claim 11 [or 12], in which the detection of a possible information change in [the] said layer or [the] said layers is carried out via detection of current and/or voltage pulses.

Please amend claim 14 as follows:

14. (amended) The method as claimed in [one of] claim[s] 11 [to 13], in which the detection of a possible information change in [the] said layer or [the] said layers is carried out before and after [the] said impression and/or during [the] said impression of [the] said specific item of data into [the] said layer or [the] said layers.

Please amend claim 15 as follows:

15. (amended) The method as claimed in [one of] claim[s] 11 [to 14], in which [an] said item of data with respectively the same value is successively impressed into all [the] said layers.